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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,826	11/22/2002	Santosh Prasad Gaur	RPS920020019	9652

47052 7590 03/17/2006

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EXAMINER

CORRIELUS, JEAN M

ART UNIT PAPER NUMBER

2162

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/065,826

**Applicant(s)**

GAUR ET AL.

**Examiner**

Jean M. Corrielus

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/23/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. This office action is in response to the request for continued examination filed on December 23, 2005, in which claims 1-28 are presented for further examination.

#### *Response to Arguments*

2. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. While optimizing leaf comparison from a tree search of data stored in a tree structure could reasonable be considered a tangible result, the body of claim 1 doesn't appear to actually support the preamble by including a step or steps which accomplish that act. Claims 1, 10, 19, 26 and 27 recite "a type of comparison test to be performed on the match key". ***To be performed means an operation will be performed but not yet happened.*** There is no concrete evidence that such operation would perform, until it is actually done. This is just an abstract idea without any tangible result. However, there is no comparison test that is taken to perform on the match key. Therefore, it is unclear how one having ordinary skill in the art would store the control structure and the match key within a leaf of the tree structure when there is no

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comparison test that is taken to perform on the match key and it is also not clear as whether the leaf comparison as mentioned in the preamble is difference or the same as “the leaf of the tree structure” in the body of the claims.

The dependent claims 2-9, 11-18, 20-25 and 28 are rejected for fully incorporating the errors of their respective base claims by dependency.

*Claim Rejections - 35 USC § 101*

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 1-28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter, specifically, as directed to an abstract idea.

While optimizing leaf comparison from a tree search of data stored in a tree structure could reasonable be considered a tangible result, the body of claim 1 doesn't appear to actually support the preamble by including a step or steps which accomplish that act. Additionally, claims 1-28, in view of **MPEP section 2106 IV.B.2. (b)**, define non-statutory processes because they merely manipulate an abstract idea without a claimed limitation to a practical application and also a data structure embodied in computer-readable media. The language of the claims raise a question as to whether the claims are directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Data structure not claimed as embodied in computer-readable media is

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descriptive material per SE and is not statutory because they are neither physical nor statutory processes. Thus, the claimed are rejected as being non-statutory. Additionally, the invention, as claimed, is directed to the manipulation of an abstract idea with no practical application in the technology arts.

Claims 1, 10, 19, 26 and 27 represent an abstract idea, which do not provide a practical application in the technological arts. There is no manipulation of data nor there any transformation of data from one state to another being performed in “optimizing leaf comparison from a tree search of data stored in a tree structure” in the claims. Actually, no post computer process activity is found in the technological arts. Thus, no physical transformation is performed, no practical application is found in the claims. Such optimizing leaf comparison as claimed can be done in a piece of paper, where one having ordinary skill in the art would produce a random number a data record and compare that random number with the previously random number in the sheet. Also, the claims do not appear to correspond to a specific machine or manufacture disclosed within the specification and thus encompass any product of the class configured in any manner to perform the underlying process, and are thus rejected as being directed. Claims 1, 10, 19, 26 and 27 are not **tangibly embodied** in a manner so as to **be executable** as the only hardware is in an intended use statement. Therefore, claims 1, 10, 19, 26 and 27 are directed to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. Applicant is advised to amend the claims by specifying the claim being directed to a practical application and producing a tangible result **being executed** by a general-purpose computer in order to correct the above indicated

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deficiencies.

The dependent claims 2-9, 11-18, 20-25 and 28 are rejected for fully incorporating the errors of their respective base claims by dependency.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5, 7, 9-14, 16, 18-21, 23 and 25-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Bass et al (hereinafter “Bass”) US Patent no. 6,675,163.

As to claims 1 and 28, Bass is directed to the system for finding full match between a search pattern and a pattern stored in a leaf of the search tree. In particular, Bass discloses the claimed “providing a control structure for leaf data comparison as a control vector and a match key, the control indicating a type of comparison test to be performed on the match key” by comparing the input key with the pattern stored in the leaf (col.9, lines 28-40) and by determining whether caching is enabled the size of the key and the leaf and the type of search to perform (col.10, lines 5-15); and “storing the control structure including the control vector and the match key within a leaf of tree structure” (col.10, lines 22-45).

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As to claim 2, Bass discloses the claimed “the control setting , the control indicating a type of comparison test to be performed on the match key portion of the match key”(col.10, lines 5-61).

As to claim 3, Bass discloses the claimed “a two-bit value, the control indicating a type of comparison test to be performed on the match key” (fig.3; col.10, lines 23-63).

As to claim 4, Bass discloses the claimed “providing the control structure in a fixed block of memory” (col.11, line 20-col.12, line 40; col.15, lines 10-33).

As to claim 5, Bass discloses the claimed “allowing storage of additional data in the fixed size block of memory following the control structure” (col.11, line 20-col.12, line 40; col.15, lines 10-33).

As to claim 7, Bass discloses the claimed “a mask pattern and key value for the masked compare test” (fig.10; col.14, lines 7-55).

As to claim 9, Bass discloses the claimed “maximum and minimum value of the predetermined range of values compare test” (fig.10; col.14, lines 7-55).

As to claims 10-14, 16 and 18, the limitations of claim 10-18 have been noted in the rejection of claims 1-5, 7 and 9 above. In addition, Bass discloses “an embedded processor (col.5, lines 30-57), and tree search engine” (fig.14; col.9, lines 12-40); and “external memory (col.5, lines 50-

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57) coupled to the embedded processor, wherein the tree search engine performs on leaf data in the external memory according to a control structure comprising a control vector and a match key being stored within a leaf of the tree structure, wherein the control vector indicates a type of comparison test to be performed on the match key” (col.9, lines 28-40; col.10, lines 5-15).

As to claims 19-21, 23 and 25, the limitations of claims 10-25 have been noted in the rejection of claims 1-5, 7 and 9 above. In addition, Bass discloses the claimed “storing leaf data within fixed size blocks of memory in the external DRAM as a control vector and match key”(fig.14; col.10, lines 5-15); “utilizing the control vector to indicate a type of comparison test to be performed on the match key within the leaf data by a search engine of the embedded processing system” (fig.14; col.9, lines 12-40; col.10, lines 5-15).

As to claims 26-27:

Claims 26 and 27 are computer readable containing program instructions for performing the method of claim 1 and 19. They are, therefore, rejected under the same rationale.

#### ***Allowable Subject Matter***

7. Claims 6, 8, 15, 17, 22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



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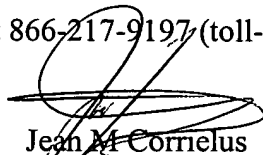
8. Claims 6, 8, 15, 17, 22 and 24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101 and 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M. Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean M. Corrielus  
Primary Examiner  
Art Unit 2162

March 11, 2006